

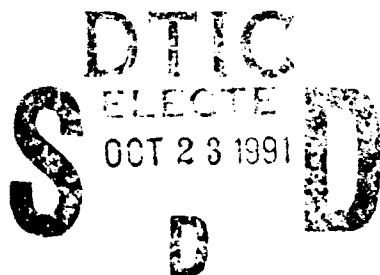
# Marine Physical Laboratory

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## SUPPORT OF NRL ACOUSTIC EXPERIMENTS IN THE NORTH PACIFIC

Peter F. Lonsdale  
(Principal Investigator)



*Final Report to Office of Naval Research Grant  
N00014-89-J-3131 for the Period 05-01-89 - 09-30-89*

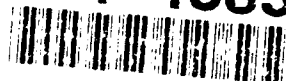
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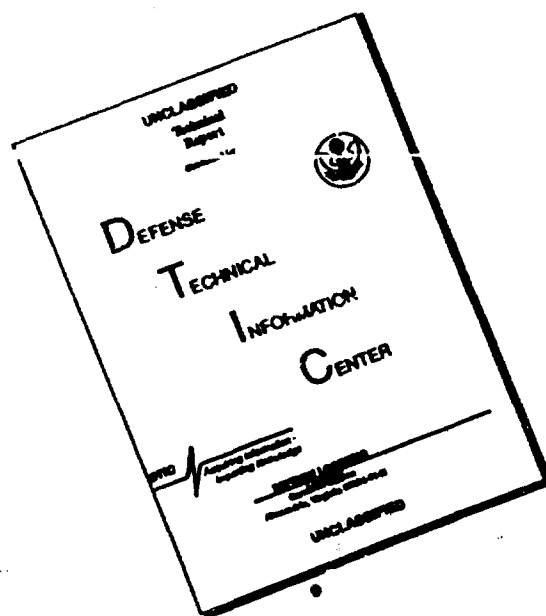
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# *Support of NRL Acoustic Experiments in the North Pacific*

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Final Report to the  
Office of Naval Research  
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## *Summary*

During the transit portion of the ONR funded research cruise to study the Fierberling Guoyt: (as part of the Topographic Interaction Project) the R/V THOMAS WASHINGTON was utilized to collect an east-west swath of multibeam bathymetry and seismic profiler data between the Murray and Pioneer Fracture Zones. This data was collected at the request of Dr. Orest Diachok of the Naval Research Laboratory. Seafloor roughness and sediment thickness measurements are required by NRL to enhance the interpretation of the bottom reflectivity experiments "Pacific Echo 1" and "Pacific Echo 2", which assessed the dependence of bottom reflectivity on such factors as grazing angle, acoustic frequency, abyssal hill orientation and geologic age.

Data was collected along the 34°N between 130°W and 140°W; on a survey of a 400 km<sup>2</sup> area around 34°N, 140°W; and on a great circle track between 34°N, 140°W and 31°14'N, 156°W.

The systems used were the Sea Beam echo-sounder, and a single-channel profiler which used an 80 cubic inch watergun as the sound-source. A magnetic profile (for establishing crustal age) was collected for the Scripps archives. The data was given to NRL at the end of the cruise in the form of contour swaths of Sea Beam data, a navigationally reconciled Sea Beam survey of the area, 9-track tapes of merged Sea Beam and navigation data, and copies of the analog seismic profiles.

The geophysical data will be archived at Scripps, as well as being supplied to NRL, and will be available for use by other investigators.